

[54] **TABLE FRAME STRUCTURES AND
CORNER CONSTRUCTIONS THEREFOR**

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[58] Field of Search **248/188, 188.1;
287/20 R, 20.92 D, 189.36 H; 108/156;
211/182; 5/288, 310**

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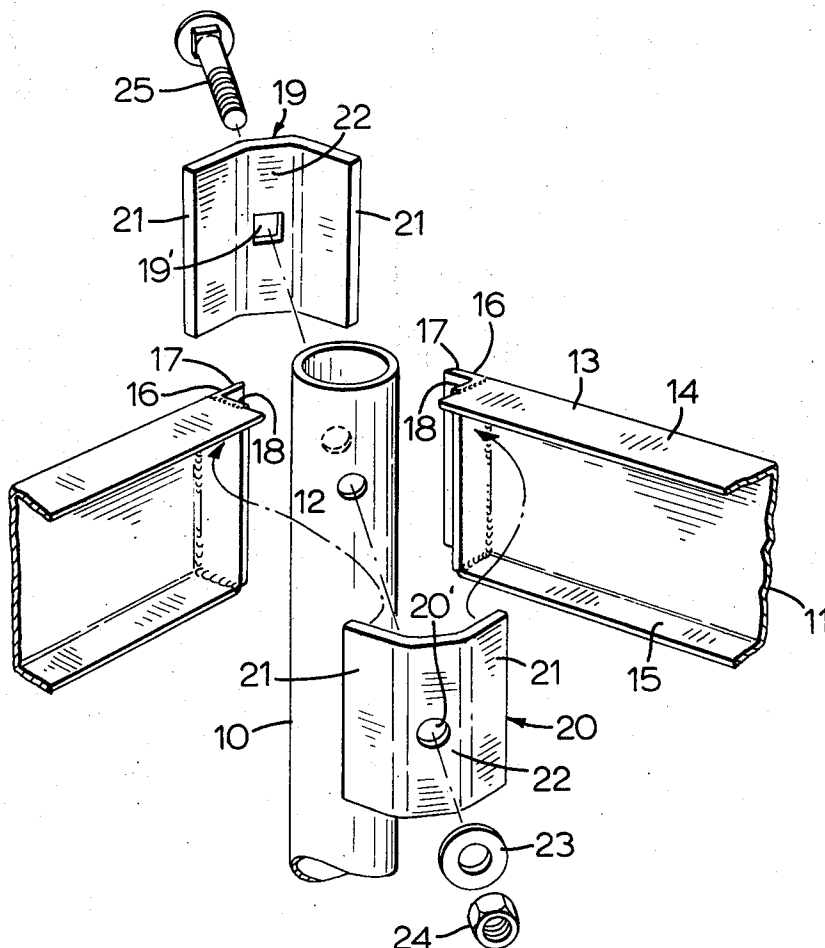
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[57] **ABSTRACT**

A corner construction for a table comprises an upright leg, a pair of horizontal side frame members, and means for clamping the side frame members into end abutting relation to the leg. The clamping means comprises a pair of clamping members, each clamping member comprising a flanged plate the flanges of which subtend an angle which is supplementary to the angle subtended between the flanges of the other plate, said angles defining the angle subtended between the side frame members when the latter are clamped in position.

10 Claims, 5 Drawing Figures



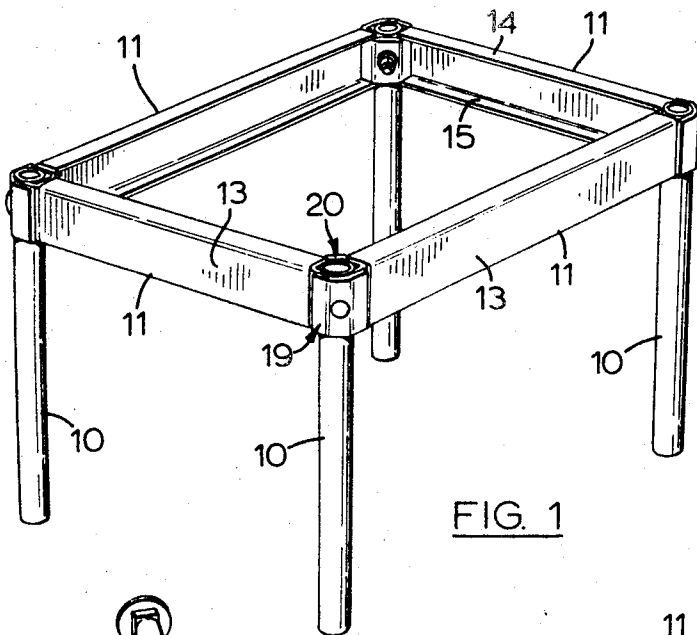


FIG. 1

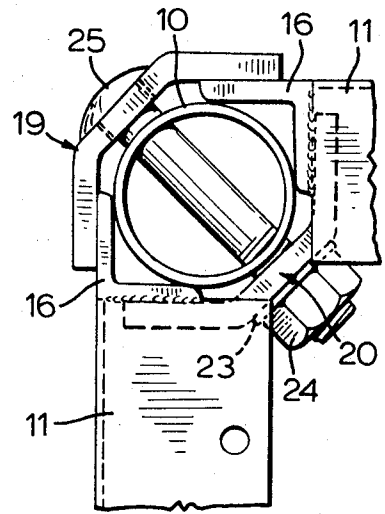


FIG. 3

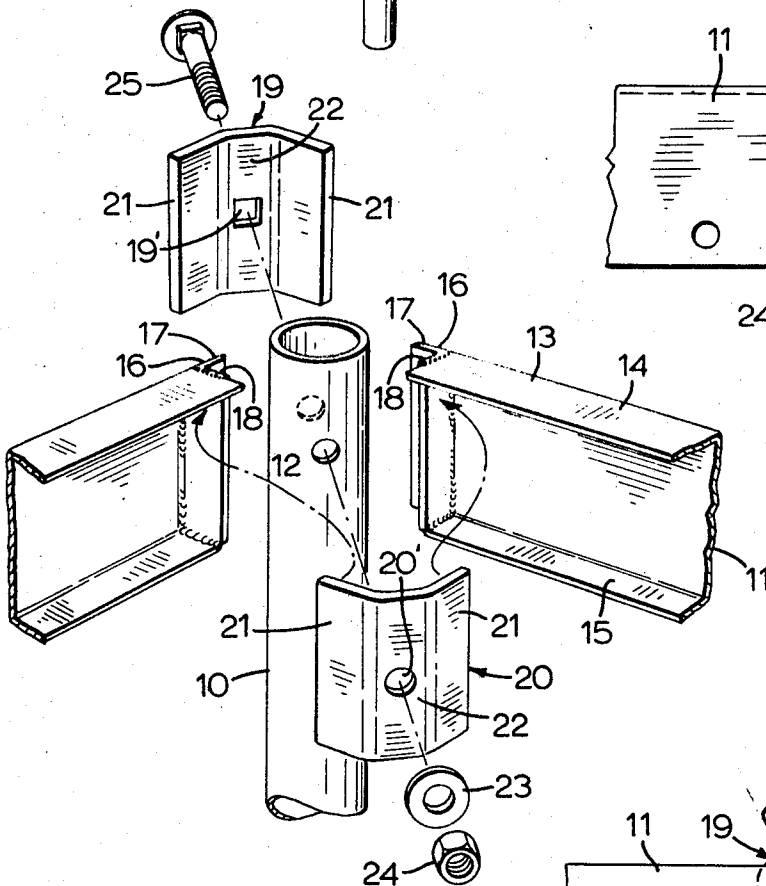


FIG. 2

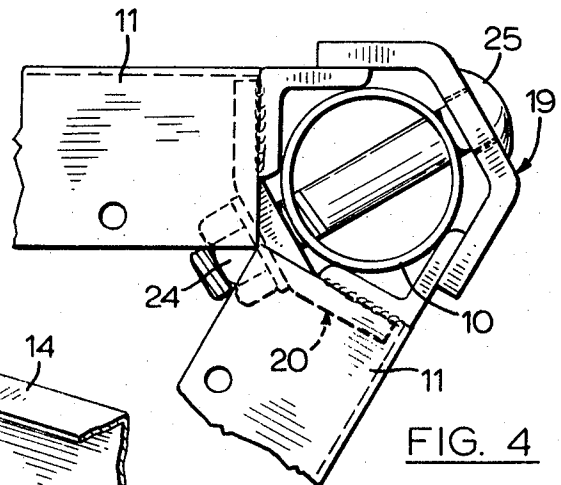


FIG. 4

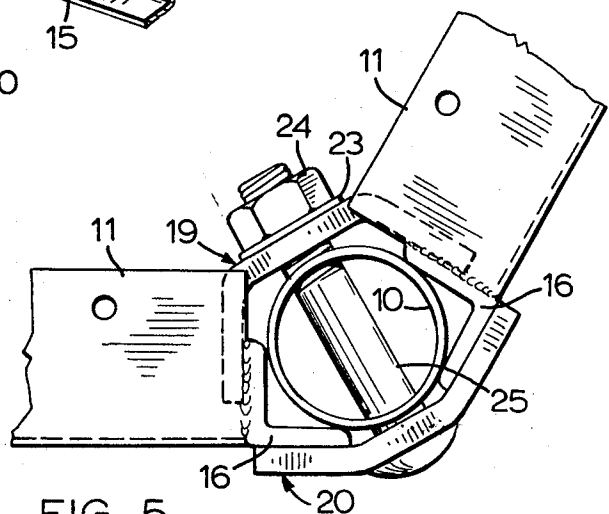


FIG. 5

TABLE FRAME STRUCTURES AND CORNER CONSTRUCTIONS THEREFOR

This invention relates to table frame structures, and more particularly to corner constructions therefor. The invention is especially applicable to metallic knock-down frame structures of the kind having four upright legs with an open quadrilateral frame formed by side frame members which are connected together so as to support a table top, the legs being positioned at the corners of the frame.

It is an object of the invention to provide a corner construction which permits the assembly of frame structures of different shapes from a limited number of standard parts.

A corner construction according to the invention comprises an upright leg, a pair of horizontal side frame members, and means for clamping the side frame members into end abutting relation to the leg. Each side frame member has an end constituted by an angle member having a pair of upright flanges, each flange having an inner surface and an outer surface, said inner surfaces abutting against the leg, said clamping means comprising a pair of clamping members and means for securing said members in clamping relation, each clamping member comprising a plate providing a pair of upright flanges which subtend a predetermined angle with one another, each plate flange being adapted to engage the outer surface of a respective flange of a respective angle member.

In order that the invention may be readily understood, one embodiment thereof will now be described, by way of example, with reference to the accompanying drawings, in which:

FIG. 1 is a general perspective view of a frame structure of a table of rectangular shape;

FIG. 2 is an exploded view of a detail of FIG. 1, the figure illustrating a corner construction;

FIG. 3 is a plan view of the corner construction when assembled; and

FIGS. 4 and 5 illustrate modified corner constructions for tables of trapezoidal and other shapes.

The table frame structure shown in FIG. 1 comprises four upright legs 10, and four horizontal side frame members 11 which are assembled to form a rectangular frame adapted to support a table top. Each of the legs 10 is tubular and provided with a pair of diametrically opposed holes 12 adapted to receive a clamping bolt 25 for the purpose hereinafter described (see FIGS. 2 and 3). The side frame members 11 are of channel section, each side frame members providing a vertical front face 13 and a pair of upper and lower horizontal flanges 14,15. Each side frame member 11 has a pair of ends constituted by angle members 16, each angle member having a pair of upright flanges 17,18, each of the upright flanges having an inner surface and an outer surface. The angle members 16 are welded to the members 11 so that the outer surfaces of the flanges 17 are coplanar with the front faces 13 of the side frame members and the outer surfaces of the flanges 18 lie in planes which intersect the front faces 13 and the horizontal flanges 14,15 at right angles.

The side frame members 11 are clamped into end abutting relation to the legs 10 so that the inner surfaces of the angle members 16 abut against the legs. The side frame members and leg at each corner of the frame are clamped by means of a pair of clamping members 19,20. Each of the clamping members com-

prises a plate providing a pair of upright flanges 21 which subtend a predetermined angle with one another, in this case a right angle, and an intermediate surface 22 lying at a chamfer angle to said upright flanges 21. The flanges of the clamping member 19 engage the outer surfaces of the upright flanges 17 of a respective pair of angle members, and the flanges of the clamping member 20 engage the outer surfaces of the upright flanges 18 of the same angle members. The clamping members 19 and 20 are apertured at 19',20', to receive the clamping bolt 25 for securing the members in clamping relation, a washer 23 and a nut 24 being threaded onto the bolt.

It will be noted that the angles subtended between the flanges of the clamping members 19,20 determine the angles at the corners of the table frame. If the angle members 16 are right angled, then the angles subtended between the respective pairs of flanges of a pair of clamping members must be supplementary. This enables the construction to be applied to frame structures of non-rectangular shape. For example, the construction may be applied to a frame structure of trapezoidal shape having a pair of similar acute angles and a pair of similar obtuse angles. FIGS. 4 and 5 respectively show corner constructions for an acute angle and an obtuse angle. In each case the angles subtended by the clamping members of each pair are supplementary. In FIG. 4 the angles of the inner and outer clamping members are 120° and 60°, respectively, and in FIG. 5 the angles of the inner and outer clamping members are 60° and 120°, respectively.

Thus, with a minimum number of components as described above, it is possible to assemble frame structures of different shapes, i.e., square, rectangular, trapezoidal, rhombic, hexagonal and triangular. Obviously, an even greater variety of shapes is obtainable if other clamping members are used. It will be observed that the unique feature of the construction, which accounts for its versatility, is that each corner is secured by a pair of clamping members, each clamping member comprising a plate providing a pair of upright flanges which subtend a predetermined angle with one another, each plate flange being adapted to engage the outer surface of a respective flange of a respective angle member.

What I claim as my invention is:

1. A corner construction for a table, comprising an upright leg, a pair of horizontal side frame members, and means for clamping the side frame members into end abutting relation to the leg, each side frame member having an end constituted by an angle member having a pair of upright flanges, each flange having an inner surface and an outer surface, said inner surfaces abutting against the leg, said clamping means comprising a pair of clamping members and means for securing said members in clamping relation, each clamping member comprising a plate providing a pair of upright flanges which subtend a predetermined angle with one another, each plate flange being adapted to engage the outer surface of a respective flange of a respective angle member.
2. A corner construction according to claim 1, wherein the respective angles subtended between the

plate flanges of said clamping members are supplementary.

3. A corner construction according to claim 2, wherein said respective angles are right angles.

4. A corner construction according to claim 2, wherein said respective angles are an acute angle and an obtuse angle.

5. A corner construction according to claim 1, wherein the leg is of tubular form, each clamping member providing an intermediate surface lying at a chamfer angle to said plate flanges, and said securing means comprising a clamping bolt extending through said leg and said intermediate surfaces.

6. A corner construction according to claim 1, wherein each side frame member is of channel section providing a vertical front face and a pair of upper and lower horizontal flanges, the outer surfaces of the flanges of the associated angle member respectively lying in the plane of said front face and in a plane which intersects said front face and horizontal flanges at right angles.

7. A table frame structure comprising four upright legs,

four horizontal side frame members defining a quadrilateral frame adapted to support a table top, and means for clamping the side frame members into end abutting relation to the legs, the legs being positioned at the four corners of the frame,

each side frame member having a pair of ends constituted by angle members each having a pair of up-

right flanges,

each flange having an inner surface and an outer surface

said inner surfaces of the angle members abutting against the legs,

said clamping means comprising a pair of clamping members and means for securing said members in clamping relation,

each clamping member comprising a plate providing a pair of upright flanges which subtend a predetermined angle with one another,

each plate flange being adapted to engage the outer surface of a respective flange of a respective angle member.

8. A table frame structure according to claim 7, wherein said frame is rectangular.

9. A table frame structure according to claim 7, wherein the respective angles subtended between the plate flanges of each pair of clamping members are supplementary.

10. A table frame structure according to claim 9, wherein each side frame member is of channel section providing a vertical front face and a pair of upper and lower horizontal flanges, the outer surfaces of the flanges of the associated angle members respectively lying in the plane of said front face and in planes which intersect said front face and horizontal flanges at right angles.

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